

## CDR SEMINAR SERIES

# Frank Romanski, Ph.D.

Global Skin Delivery Laboratory, Pharmaceutical Ingredients & Services  
BASF Corporation, 500 White Plains Road, Tarrytown, NY 10591

September 29<sup>th</sup>, 2014

## Excipients: The key to effective Drug Delivery, Formulation Mildness, and Optimized Sensory Performance for Topical Pharmaceutical Products

### BIOGRAPHY:



Dr. Frank Romanski is a scientist representing the technical services group at BASF Pharma Ingredients and Services located in Tarrytown, NY. This group focuses on the performance and utilization of excipients for the development of pharmaceutical products within four key areas of focus: skin delivery, softgels, solubilization, and modified drug release. Specifically, Frank represents the Global Skin Delivery laboratory where the target is to develop excipients that aid in drug delivery, promote product mildness, and enhance sensory properties. Recently, this work has focused on innovative methods of utilizing excipients to address the numerous challenges afflicting the pharmaceutical industry including: enhancement of efficacy, improved skin penetration, the use of novel excipients, and contemporary drug delivery vehicles. In addition, he has extensive hands-on and functional experience in a multitude of methodologies for bioavailability enhancement including hot melt extrusion, spray drying, and nanotechnology. He is the author of

numerous research publications and patents on topics ranging from colloids, solubilization, surfactant chemistry and crystallization. He received his Ph.D. in Chemical Engineering from Rutgers University in 2011.

### ABSTRACT:

The formulation of topical and transdermal products for the delivery of Rx and OTC pharmaceuticals through the skin is an inherently complex process where in many cases the excipient selection can be as important as the active drug. When selecting excipients, numerous criteria should be utilized in order to reach the desired drug delivery profile, formulation mildness, and the sensory perception of the final product. BASF Pharma Ingredients and Services focuses on the global needs of the dermatology industry by providing compendial materials for the development of topical and transdermal products. In this work, highlights from the current research activities at our Global Skin Delivery Laboratory in Tarrytown, NY will be presented. Specifically, data highlighting the use of solvents, emollients and surfactants to promote skin penetration and effective drug delivery will be shown by manipulating the fundamental science of mass transfer through the skin. These results will be further corroborated by the use of various theoretical tools for the temporal modeling of drug penetration in multi-phase formulations.

The ability to mitigate irritation and promote mildness using excipients will be discussed utilizing both in vitro and in vivo studies. Next, a series of sensory perception studies will be discussed utilizing a collection of trained and untrained panel members for the evaluation of important sensory parameters such as greasiness, cushion, and overall skin comfort; each with a unique impact on patient compliance. Finally, innovative ways to utilize both widely used, as well as novel excipients for enhancing skin delivery will be presented.

**LOCATION:** Life Sciences Building Rutgers - The State University of New Jersey, 145  
Bevier Road, Piscataway, New Jersey 08854,  
New Jersey Center for Biomaterials Suite - Conference Room 102

**TIME:** 5:30 PM

**HOST:** Bozena B. Michniak-Kohn, Ph.D., M.R., Pharm.S. Director,  
Center for Dermal Research, Professor of Pharmaceutics,  
Ernest Mario School of Pharmacy